



### Handle Extender

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Amendments by Section and Paragraph:

#### BACKGROUND OF THE INVENTION

Paragraph 3 (found on Page 2 of original application):

The examples ~~in number 1~~ above are is-typical of many wheeled luggage objects, with an extendable and retractable handle assembly that is longitudinal in nature to the length of the bag and therefore rigid and difficult to manipulate without discomfort to the user. The examples ~~in numbers 2 and 3~~ above are attachments that extend the length of the fixed luggage handle assembly, but neither addresses the difficulty and discomfort associated with the proximity of the user to the forward motion of the wheeled object from a lateral perspective.

#### BRIEF SUMMARY OF THE INVENTION

Paragraph 1 (found on Page 3 of original application):

This invention is directed to correct the problems noted in the Background section and assist the user of hand-carried luggage in maintaining lateral obstruction-free use of a wheeled object. The intent of the attachment device is to create enough lateral clearance between the user's body, legs, and feet and the luggage piece or handle framework to provide this obstruction-free use.

#### BRIEF SUMMARY OF THE INVENTION

Paragraph 2 (found on Page 3 of original application):

One innovative design of this device is the lateral proximity to the wheeled object fixed handle assembly with which it is used. When attached to the upper extremity of the preexisting handle assembly, just under the fixed handle grip and to the two supporting distal units attached to the handle grip, the device then extends the handle gripping area towards the user's body. Depending on the width of the fixed handle assembly, the extended gripping area is still several inches. While this device extends laterally from the handle assembly, in a plane parallel to the preexisting handle grip and allowing for more gripping area for the user, it typically does not extend beyond the entire

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width of the wheeled object and therefore does not restrict the normal operation of the object through doorways or security screening apparatus.

#### **BRIEF SUMMARY OF THE INVENTION**

Paragraph 3 (found on Page 3 of original application):

Another innovative feature of this device is the range of motion it provides the user in manipulating a wheeled object in normal operations. The extra gripping area, extended laterally from the fixed handle assembly in a plane parallel to the preexisting handle grip but perpendicular to the forward or backward motion of the wheeled object, as prompted by the orientation of the wheels of the object, allows a user to grip the extension and pull or push the wheeled object with a more relaxed angle of the wrist and attitude of the arm. This increased range and relaxed grip allows the user to manipulate the wheeled device further from their body and extremities in motion during a stroll or brisk walk. Feet, thighs, and hips are well distanced from the wheeled object while using the extension, allowing the user to retain a more natural physical stance and posture, operate an even greater pace than normal if necessary, and maintain control and movement of the object.

#### **BRIEF SUMMARY OF THE INVENTION**

Paragraph 4 (found on Page 4 of original application):

Additional innovative aspects of this device are the ease of use and adaptability to currently used wheeled objects. The device fits securely to any wheeled object handle assembly and is relatively easy to attach and detach in only a few short steps. The device is a rigid and elongated hand grip apparatus with a first gripping end and an opposite connecting end, whose sole axis between the first and second ends is aligned absolutely parallel to the plane in which a preexisting grip member of a wheeled object handle assembly is oriented. The attachment means of the device comprise an open-ended forked second connecting end having an opening allowing for the restraint and release of a preexisting distal support unit for said preexisting grip handle and said forked end being aligned with and restrained can be operated with said distal support unit and preexisting grip handle in an integrated capacity. The user fits the forked end of the device to the handle assembly distal support member furthest from their body, rests the device along the handle assembly support

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member closest to their body, and then secures the device to the assembly. ~~Securing the device involves pulling the horizontally configured attached strap across the opposite side of the device, with the assembly support members enclosed, threading the strap through a looped eyelet attached to the device, then wrapping the strap back on itself and securing it with a self-adhesive strip along the strap.~~ Second, ~~a vertically configured attached strap near the center of the device is wrapped around the device, fixed handle, and horizontal strap, and then secured to itself with a self-adhesive strip along the strap.~~ Attachment securing means comprise at least one connecting area with an associated strap, said straps being configured to encircle and restrain said grip member and supporting distal unit of said preexisting handle assembly, through strap affixation means, and to then operate in an integrated capacity with said conversion apparatus and preexisting handle grip of said wheeled object from either the left or right side of said wheeled object, for extended lateral clearance from said wheeled object for either a left or right-handed user, respectively. The strength of the attached device allows for a completely secure fit to the fixed handle assembly and allows for normal operations of the wheeled object, even at odd angles maintained during transport. Additionally, ~~the vertical strap can be used to secure a second luggage piece to the fixed handle, allowing a more secure load when traveling with multiple pieces.~~ The basic nature of the device allows for use with most any handle assembly at a relatively inexpensive cost to the user. It is made up of only a few inexpensive yet durable materials. Users can continue to use their currently owned wheeled luggage with this device, attaching and removing it as necessary given operational situations presented in travel and transport, such as security checkpoints or storage in overhead or vehicle compartments.

## BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Paragraph 4 (found on Page 5 of original application):

FIG. 4 is a computer-generated illustration of the Handle Extender not yet secured to a luggage object. This top section view highlights the forked connecting end, mounting base and ~~but without the securing self-adhesive strips.~~

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### DETAILED DESCRIPTION OF THE INVENTION

Paragraph 2 (found on Page 5 of original application):

In FIG. 1, a wheeled luggage case 1 is depicted with the telescopic handle assembly fully extended.

The telescopic handle assembly is made up of two telescopic distal support members 2a/2b that connect to a fixed handle 3, all of which is attached permanently to the wheeled case 1. The telescopic handle assembly can be extended out from or retracted into the wheeled case. Because the supporting members are attached to the handle 3 at the top and to the wheeled case at the bottom, the entire telescopic assembly is quite rigid. Also shown in this figure is the invention attached to the fixed handle assembly and ready for use. The base connecting end 4 of the invention ~~comprises an open-ended forked connecting end having an opening is forked with two protruding prongs~~(detailed in FIG. 4 and FIG. 5) allowing for the restraint and release of a preexisting distal support unit that allow a fit around one base support member 2b of a luggage handle. The forked-end opening prongs will fit from the inside of said member on the side furthest from the user 2b. On the main body 5 of the invention, the area between the gripping and connecting ends, next to just inside of the base connecting end opening prongs 4, there is an attached strap connector security connection means 6 (detailed in FIG. 3 and FIG. 5). This connector secures ~~the~~ a horizontal strap 7 (detailed in FIG. 3 and FIG. 5) to the invention main body. ~~Opposite the base end of the invention next to the handle extension grip 12 is a second fixed strap connector 8 (not visible in this view) that is used for fastening the loose end of the horizontal strap. This looped clasp will be detailed in FIG. 3 and FIG. 5, but is used to loop the horizontal strap 7 through and then secure it to itself using self-adhesive strips.~~ On the center section of the invention main body 5, is another vertical strap connector security connection means 9 (not visible in this view). ~~is fastened to the main body and serves as the base for the vertical strap 10 (detailed in FIG. 3 and FIG. 5).~~ Once the invention is in place and the horizontal strap 7 is secure, the user then wraps the second vertical strap 10 vertically and tightly around the fixed luggage handle 3 and presses the self-adhesive to itself for ultimate security. Finally, the handle gripping end 12 of the invention is shown to extend laterally from the fixed handle assembly, close to the user.

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### DETAILED DESCRIPTION OF THE INVENTION

Paragraph 3 (found on Page 6 of original application):

In FIG. 2, a close-up view of the invention is shown from the same vantage point as in FIG. 1, the outer side of the handle assembly. Again, the illustration depicts the telescopic handle assembly fully extended, however only the top portions of the distal support members **2a/2b** are shown. In this example, the supporting members are fully extended and attached to the fixed handle **3**. Also shown in this figure is the invention attached to the fixed handle assembly and ready for use. As in FIG. 1, the base connecting end **4** of the invention comprises an open-ended forked connecting end having an opening is forked with two protruding prongs (detailed in FIG. 4 and FIG. 5) allowing for the restraint and release of a preexisting distal support unit that allow a fit around one base support member 2b of a luggage handle. The forked-end opening prongs will fit from the inside of said member on the side furthest from the user **2b**. On the main body **5** of the invention, the area between the gripping and connecting ends, next to just inside the base connecting end opening prongs 4, there is an attached strap connector security connection means 6 (detailed in FIG. 3 and FIG. 5). This connector secures the a horizontal strap 7 (detailed in FIG. 3 and FIG. 5) to the main body of the invention. Opposite the base end of the invention next to the handle extension grip 12 is a second fixed strap connector 8 (not visible in this view) that is used for fastening the loose end of the horizontal strap. This looped clasp will be detailed in FIG. 3, but is used to loop the horizontal strap through and then secure it to itself using self-adhesive strips. On the center section of the invention main body **5**, is another vertical strap connector security connection means 9 (not visible in this view), is fastened to the main body and serves as the base for the vertical strap 10 (detailed in FIG. 3 and FIG. 5). Once the invention is in place and the horizontal strap **7** is secure, the user wraps the second vertical strap 10 vertically and tightly around the fixed luggage handle **3** and presses the self-adhesive to itself for ultimate security. Finally, the handle extension gripping end 12 of the invention is shown to extend laterally from the fixed handle assembly, close to the user.

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### DETAILED DESCRIPTION OF THE INVENTION

Paragraph 4 (found on Page 7 of original application):

In FIG.3, an exploded view from the inner side of the handle assembly is shown. It should be noted that the invention support connecting straps are not secured so as to show the configuration of said straps and respective areas for securing said straps~~anchoring connectors~~. The forked base connecting end 4 of the invention is positioned against one distal base support member **2b** of a luggage handle. The forked-end opening~~prongs~~ fits from the inside of said member, just under the fixed handle **3**, and on the side furthest from the user **2b**. ~~On the outermost prong in line with the main body 5 of the invention, just inside the base end prongs 4, there is an attached strap connector 6 (detailed in FIG. 3 and FIG. 5). This connector resembles a clasp with an opening width-wise on the edge to allow a cloth strap to be inserted, threaded through, and sewn to itself permanently 7a (not shown in this view). Then said strap 7 is configured to encircle and restrain said supporting distal unit of said preexisting handle assembly, through strap affixation means, and to then operate in an integrated capacity with said conversion apparatus and preexisting handle grip of said wheeled object from either the left or right side of said wheeled object. This connector serves as the base for the horizontal strap 7 attachment that provides a secure hold of the invention to the luggage handle assembly.~~ Next to the handle gripping end of the handle extension **12** is ~~the~~ a second strap connector area 8 for the horizontal strap. The strap is self-adhesive in that one side, of looped self-adhesive 11a, will mate with the opposite side, of hooked self-adhesive 11b for a secure affixation. ~~In the middle section on the outside of the horizontal strap is sewn a region of looped self-adhesive 11a (the softer of the self-mating components, but not shown in this view) that spans nearly the entire length of the middle section of the strap. Also on the outside edge near the end of the horizontal strap is sewn the hooked self-adhesive 11b (the rougher of the self-mating components). This looped horizontal connector area 8 is where the loose end of the first horizontal securing strap is threaded through and then attached back onto itself using the self-adhesives. Due to varying widths of the base support members of wheeled luggage pieces, albeit only a few inches in length, the invention main body 5 and horizontal attachment strap 7 will be long enough to accommodate these varying lengths, while still providing a secure fit to the fixed handle assembly. On the center section of the invention main body 5, another securing strap connector area 9 is fastened with the slit~~

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opening horizontally to the bottom side of the main body (detailed in FIG. 3 and FIG. 5). This allows for a vertical strap 10 to be attached permanently ~~connector 9 also resembles a clasp with an opening width wise on the edge to allow for a cloth strap to be inserted, threaded through, and sewn to itself permanently 10a.~~ Attached to the vertical connector area is the vertical fastening strap 10. In the middle section on the outside of the vertical strap is sewn a region of looped self adhesive 11a (the softer of the self-mating components, but not shown in this view) that spans nearly the entire length of the middle section of the strap. On the inside of the end of the vertical strap is sewn the hooked self adhesive 11b (the rougher of the self-mating components). Once the invention is in place and the first horizontal strap is secure, the user wraps the second vertical strap 10 tightly around the luggage handle grip and presses the self-adhesive to itself for ultimate security. The strap is self-adhesive in that one side, of looped self-adhesive 11a, will mate with the opposite side, of hooked self-adhesive 11b for a secure affixation. Finally, the handle grip 12 of the invention is shown to extend laterally from the fixed handle assembly, close to the user.

### DETAILED DESCRIPTION OF THE INVENTION

Paragraph 5 (found on Page 8 of original application):

FIG. 4 is a computer-generated drawing of the top view perspective of the invention. Without repeating the detail in the previous illustrations, the main aspects will be noted but the forked base connecting end 4 will be the focus of this drawing. In this view, the handle extender grip 12 is shown at the bottom of the drawing. Moving up, the horizontal looped connector area 8 is shown where the horizontal strap 7 loops through and attaches itself using self-adhesives 11a/11b.

Continuing up the main body 5 of the invention, the vertical strap connector area 9 is shown with attached vertical strap 10. At the top of this drawing is the forked base connecting end 4 of the invention. As mentioned in previous drawings, ~~just inside next to the forked base connecting end,~~ the horizontal strap connector 6 is attached to the main body. This forked ~~end opening base end~~ fits ~~around against~~ the handle assembly distal support member furthest from the user and then the horizontal and vertical straps are used to secure the invention to the handle assembly. Of note in this drawing are the self-adhesive strips on the horizontal strap, where the hooked 11b adhesive side fits through the horizontal connector and attaches to the soft adhesive 11a side.

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### DETAILED DESCRIPTION OF THE INVENTION

Paragraph 6 (found on Page 8 of original application):

FIG. 5 is an exploded view of the invention in pre-assembled form. Each of the component parts is emphasized in this view with motion lines to show the assembly configuration. This example emphasizes strap connector areas that utilize connecting attachment assemblies, as opposed to FIG. 4 which emphasized connector areas integrated into the main body for the invention. The main body 5 of the invention is one solid piece of solid and ~~study~~ rigid material where all other components are attached. The main body 5 is molded or formed from wood, metal, or most likely hardened plastic. Solid plastic will provide the necessary strength for the handle extender and be less of a security risk with regard to airport security procedures so it is the material of choice. One end of the main body 5 is where the forked base connecting end 4 is molded. On the opposite end of the main body 5 the rectangular and relatively flat structure of the main body is then molded into a rounded, cylindrical gripping end 12a. On the main body, just inside of this rounded end 12a are two predrilled holes 8a/8b to house the horizontal ~~looped~~ strap connector attachment 8. Moving further toward the center of the main body 5 of the invention, two more predrilled holes 9a/9b house the vertical strap connector attachment 9. To assemble the Handle Extender, the horizontal ~~looped~~ strap connector attachment 8 is inserted into the predrilled holes 8a/8b and ~~two threaded nuts are screwed~~ is secured onto the connector through security means to ~~secure it tightly to~~ the main body 5. The vertical ~~looped~~ strap connector attachment 9 is inserted into its predrilled holes 9a/9b and then similarly attached tightly to the main body through security means. ~~with threaded screws.~~ The horizontal base strap connector attachment 6 is inserted into its predrilled holes 6a/6b and fastened tightly to the main body 5 through security means. The horizontal strap 7 is permanently attached 7a threaded through the horizontal base strap connector 6, ~~folded back onto itself, and sewn securely together 7a.~~ The vertical strap 10 is similarly permanently attached 10a to threaded through the vertical strap connector 9, ~~folded back onto itself, and sewn securely together 10a.~~ The straps are self-adhesive in that one side, of looped self-adhesive 11a, will mate with the opposite side, of hooked self-adhesive 11b for a secure affixation. ~~In the middle section on the outside of the horizontal strap 7 is sewn a region of looped self-adhesive 11a (the softer of the self-mating~~



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components) that spans nearly the entire length of the middle section of the strap. On the end of the horizontal strap 7, on the same side as the looped self-adhesive 11a, is sewn the hooked self-adhesive 11b (the rougher of the self-mating components). In the middle section on the outside of the vertical strap 10 is sewn a region of looped self-adhesive 11a (the softer of the self-mating components) that spans nearly the entire length of the middle section of the strap. On the inside of the end of the vertical strap 10 is sewn the hooked self-adhesive 11b (the rougher of the self-mating components). Note that on the vertical strap 10, the looped self-adhesive 11a and hooked self-adhesive 11b are on opposite sides of the vertical strap 10 as the strap is wrapped around and then secured to the fixed handle (not shown in this view) of the luggage handle assembly. Finally, a plastic or rubber molded grip 12 is slid securely onto the rounded end of the main body 5 of the invention. Depending on the security of the fit of the grip 12 to the rounded end, some type of glue or adhesive may be necessary to ensure a permanent fit.

## DETAILED DESCRIPTION OF THE INVENTION

Paragraph 7 (found on Page 10 of original application):

FIG. 6 is an alternative representation of functionality of said invention, with a modification for a collapsible handle gripping area where the actual grip can be folded horizontally to the side of the invention. In order to provide more convenient performance for the traveler, an alternate handle extension assembly can be constructed in accordance with the present invention. As shown, the main body 5 of the invention is identical to that described in previous figures, with the exception of a hinge 14 behind the gripping surface 12 and between the gripping surface and horizontal looped strap connector predrilled holes 8a/8b. This hinge 14 allows the user to fold the gripping area 12 of the invention to one side and flush with the main body 5, opposite the side of the main body where the horizontal looped strap connector 8 and vertical strap connector predrilled holes 9a/9b are located. The advantage of this folded configuration is that the traveler can minimize any obstruction of the handle 12 while loading and unloading the luggage piece 1, into airport security scanners or airplane overhead compartments for example, without detaching the invention altogether, but without showing the attachment straps. This example emphasizes connector areas integrated into the main body of the invention, as opposed to FIG. 5 which emphasizes connector areas that utilize

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connection attachment assemblies. Without repeating the detail in the previous illustrations, the main aspects will be noted but the forked base connecting end 4 will be the focus of this drawing. In this view, the handle extender grip 12 is shown at the bottom of the drawing. Moving up, the horizontal strap connector area 8 is shown where the horizontal strap 7 (not shown) loops through and attaches itself using self-adhesives 11a/11b (not shown). Continuing up the main body 5 of the invention, the vertical strap connection area 9 is where the vertical strap 10 (not shown) would be permanently attached. Next to the forked base connecting end on the main body of the invention, the horizontal strap connector area 6 is shown where the horizontal strap 7 (not shown) would be permanently attached. Finally, at the top of this drawing is the forked base connecting end 4 of the invention where, as mentioned in previous drawings, the forked-end opening fits against the handle assembly distal support member furthest from the user and then the horizontal and vertical straps are used to secure the invention to the handle assembly.

### **DETAILED DESCRIPTION OF THE INVENTION**

Paragraph 8 (found on Page 10 of original application):

The drawings described highlight many of the unique features of this invention. Particularly, the ease of use is demonstrated in the simple attachment procedure of fitting the invention's forked base connecting end onto the handle assembly distal supports, securing the device using self-adhesive ~~threading each of the straps and securing the adhesives~~, and gripping the handle extension on the gripping end. The invention is compact, just more than twice the length of a typical fixed handle, and also durable, with only a few component parts required for assembly. The invention as described provides the added lateral clearance from wheeled objects for users to achieve a greater and freer range of motion when in use. The invention, being attached to said preexisting handle assembly so as to operate in an integrated capacity to each other in parallel orientation to preexisting grip and perpendicular orientation to preexisting distal support members, is such that said apparatus attachment means is oriented in an axis parallel to the plane in which said preexisting handle grip is oriented and substantially within the perpendicular plane described by the said direction of forward and backward motion of said wheeled object.